

37. (Currently amended) The reinforced flexible laminate strip of Claim 33, wherein the at least one mask layer is three separate layers spaced from one another and ~~respectively adhered to three exposed portions of~~ the continuous pre-form strand of wire.

38. (Currently amended) The reinforced flexible laminate strip of Claim 1, wherein the continuous pre-form strand of wire transversely looped back and forth across the strip width is asymmetrical about the longitudinally running center line.

### REMARKS

Claim 14 has been canceled. Claims 1, 3, 10-12, 15-18, 33 and 35-38 have been amended herein. Therefore, Claims 1-13, 15-18 and 33-38 remain pending in this application.

#### **I. Rejection under Section 112**

Claims 1-18 and 33-38 stand rejected under Section 112 for failing to comply with the written description requirement. The office action states that there is no written disclosure for the claimed language "at least one visible portion...wire passes" in Claim 1. Accordingly, Applicant has removed this language from the claims. Applicant submits that the claims are now clear and definite and that the rejection under Section 112 should be withdrawn.

#### **II. Rejection of Claims 1, 8, 10-13 and 33-37 under Section 102 (Matsumiya)**

Claims 1, 8, 10-13 and 33-37 stand rejected under Section 102(b) as being anticipated by U.S. Patent No. 5,204,157, issued to Matsumiya. The office action states that Matsumiya clearly anticipates the claims.

Matsumiya teaches a carrier and method for the production of door seals, and the like. Matsumiya has identified a well known problem with such carriers of the difficulty in controlling the stiffness and flexibility of the carrier across its width because the substrate carrier (e.g. metal) is formed of a uniform construction. See Col. 2, lines 35-

39. Such uniform construction does not allow for the control of stiffness and flexibility across the width of the carrier. Matsumiya has addressed this known problem in carriers of uniform construction by not changing the underlying carrier itself but providing add-on longitudinal reinforcement. In particular, Matsumiya provides for a number of longitudinally running reinforcement strands 9 that zig zag across the width of the carrier thereby controlling the stiffness and flexibility of the carrier across its width. The zig zagging path of strands 9 is selected and arranged to control the amount of flexibility and stiffness across the width of the carrier and at the appropriate regions along the length of the assembly.

Matsumiya also discloses that its zig zag strands 9 can be used on knitted or non-knitted wire carriers, such as slotted metal carriers, i.e. ones that are not made of wire, but stamped, pressed, or formed metal, or in carriers of other material." See Col. 2, lines 40-46. However, Matsumiya does not teach or suggest using its zig zag strands on a pre-form length of continuous wire.

Similar to Matsumiya, Applicant's laminate strip assembly also generally includes a wire base carrier and longitudinal reinforcement strands. However, there are significant differences in the construction of Applicant's invention compared to that disclosed by Matsumiya.

Most notably, Applicant's invention, as in the claims as amended, provides for a continuous strand of material as the base wire carrier where the material is specifically selected to be a pre-formed wire member rather than a knitted wire or metal slotted carrier. Matsumiya discloses use of its longitudinal strands for knitted wire or slotted metal or formed metal. Matsumiya is devoid of any disclosure, teaching or suggestion of a continuous strand of wire which pre-formed into its finished shaped prior to affixation of the longitudinal reinforcement strands. As will be described in detail below, the construction of the wire base carrier is of critical importance in the construction of

Applicant's assembly because it can accommodate much tighter roll-formed turns around a tighter radius structure.

By way of background, when wire is knit into a carrier for formation of a prior art assembly it is bent and formed as the wire is fed into to the knitting machine. Due to construction and limited capabilities of knitting machines, it is very difficult to control the shape of the ends of a wire which bent by knitting resulting in inconsistently formed loops. Thus, the resultant knitted wire will be in an undulating continuous banana-like formation with a uniform pattern. In other words, a knitted wire undulates back and forth and is completely symmetrical about the center line running through the center and along the length of the wire carrier. Since the wire is actually knitted by the knitting machine, it must be placed on pins therein for "on the fly" bending during the knitting process. Due to the limitations of wire knitting, the wire can only have the looped banana-like configuration at each of its bends.

As seen in the attached Fig. 4 of Matsumiya, if the knitted wire is roll-formed along the indicated arc, the bends of the wire located at the bottom will almost immediately touch each other while the bends at the top will separate from one another forming gaps. Thus, such a looping wire shaped cannot accommodate tight turns. This is a sever limitation in know assemblies with knitted wire carriers. Also, such a uniform undulating wire pattern that results from knitted will result in a gaps in the wire support what will cause an uneven wire support. Moreover, Matsumiya's carrier will suffer from uneven elongation and surging when it is passed through an extruder. These problems during extrusion are exacerbated due to the inconsistency of the banana-shaped loops.

Similarly, uniformly formed slotted metal suffer from the same problems as the knitted wire shown in Fig. 4 of Matsumiya. For example, slotted/stamped metal cannot make tight turns either because of the size of the legs 5 at the bends. See Fig. 5 of U.S. Patent No. 4,310,16, issued to Mesnel. The legs 5 of Mesnel must be squared off to

avoid the hungry horse problem, to avoid sharp edges and other inherent problems with the metal stamping process. Thus, there is a need in the prior art to provide a sealing strip that can make extremely tight turns yet be safe and easy and inexpensive to manufacture.

Applicant solves the aforementioned problems with the prior by providing a vastly improved supporting carrier for the assembly. Instead of changing the longitudinal reinforcement strands on the supporting carrier as in Matsumiya, Applicant provides a superior wire carrier. In particular, Applicant's support structure is a pre-form that is made of wire. This construction has significant advantages over the prior art. Applicant's wire can be easily bent into many different shapes, sizes and configurations using known wire bending machines. Figs. 3-6 of Applicant's invention illustrate 4 examples of the many different configurations that can be formed. These designs are not just mere design choices but wire patterns that are engineered for certain environments and applications taking into account the anticipated amount and locations of roll-forming. For example, the attached photographs illustrate the unique pre-form continuous wire of Fig. 5 of Applicant's invention. This particular pre-form of the present invention has a one side of bend where each has a straight line inward taper. See also top photo labeled "Present Invention". The bottom photo simulates roll-forming when along the indicated arc. As can be seen the unique ability to provide a straight line inward taper enables a tight bend at the bottom with no gaps at the top. Each of the lateral cross members of the wire are virtually perpendicular to the path of the indicated arc thus providing even support and distribution of the wire in the assembly to provide consistent elongation along the entire length of the assembly. This is not possible with prior art reinforced uniform knitted wire or reinforced uniform slotted or formed metal. Fig 4 is another illustration of the employment of a straight line inward taper of the

present invention where the bends on both side of the pre-form wire include a straight line inward taper.

Moreover, Applicant's non-knitted pre-form strand is a precisely formed support structure unlike the knitted wire of the prior art. As a result, a sealing strip with Applicant's pre-form wire carrier has consistent elongation through an extruder resulting in a consistent profile with predictable shrinkage. Thus, Applicant's assembly has completely control over elongation of the strip during manufacture unlike prior art knitted and slotted metal assemblies.

In view of the foregoing, Matsumiya fails to teach a flexible laminate strip assembly as in Applicant's claims, as amended. Matsumiya fails to disclose a pre-form of wire that includes bends that have a straight line inward taper and reinforced with longitudinal strands. Such a claimed construction is only possible with Applicant's pre-form continuous length of wire.

Therefore, Matsumiya fails to anticipate Claim 1. As a result, Claim 1 is allowable over the cited prior art. Since Claims 8, 10-13, 33-37 depend from now allowable Claim 1, Applicant submits that these dependent claims are now also allowable over Matsumiya.

### **III. Rejection of Claims 1, 4, 5, 6, 10, 13 and 15 and 18 under Section 102 (King)**

The office action also states that King clearly anticipates Claims 1, 4, 5, 6, 10, 13 and 15 and 18.

King teaches knitted wire that is further reinforced by the affixation of additional longitudinally running strands (elongation reducing members 30). The wire is bent in an uniform undulating configuration during the knitting process in similar fashion to Matsumiya. The wire of King is of a serpentine configuration. See Col. 4, lines 2-20. Since King is knitted wire that is bent on the fly during the knitting process, it is not

surprising that the bends on the side of the carrier are banana-shaped and symmetrical about a center line through the length of the carrier.

However, as described above, Applicant's invention does not employ knitted wire because the forming of the wire during the knitting process can only create uniform undulating wire that includes rounded side ends which are undesirable for producing a sealing strip that can accommodate tight turns. This is an inherent limitation in the knitting process. Applicant's invention does not employ knitting at all to form the wire or apply the longitudinal reinforcements. Applicant's wire is a pre-form continuous wire strand that is customized according to the desired roll-form for the assembly at hand. Since Applicant's wire is a pre-form and not formed by a knitting machine, it can include pre-formed side bends that have a unique straight line inward taper for tighter turning during roll-forming.

King's rounded undulating wire with banana-shaped bends, formed by knitting, fails to teach such a wire support carrier as in Applicant's claims, as amended. Therefore, King does not anticipate Claim 1 of Applicant's invention. As a result, Claim 1 is allowable over the cited prior art. Since Claims 4, 5, 6, 10, 13 and 15 and 18 depend from now allowable Claim 1, Applicant submits that these dependent claims are now also allowable over King.

#### **IV. Rejection of Claims under Section 103**

##### **A. Claims 2 and 3**

Claims 2 and 3 stand rejected as being unpatentable over Matsumiya in view of Keys.

Claims 2 and 3 depend from now allowable Claim 1. Therefore, Applicant submits that Claims 2 and 3 are now also allowable over the cited prior art. Therefore, Matsumiya and Keys fail to render obvious Claims 2 and 3 under Section 103. Claims 2 and 3 are patentable over the cited prior art.

B. Claims 4-6 and 15-18

Claims 4-6 and 15-18 stand rejected as being unpatentable over Matsumiya in view of Cook et al. '567.

Claims 4-6 and 15-18 depend from now allowable Claim 1. Therefore, Applicant submits that Claims 4-6 and 15-18 are now also allowable over the cited prior art. Therefore, Matsumiya and Cook fail to render obvious Claims 4-6 and 15-18 under Section 103. Claims 4-6 and 15-18 are patentable over the cited prior art.

C. Claims 7 and 9

Claims 7 and 9 stand rejected as being unpatentable over Matsumiya in view of Keys.

Claims 7 and 9 depend from now allowable Claim 1. Therefore, Applicant submits that Claims 7 and 9 are now also allowable over the cited prior art. Therefore, Matsumiya and Keys fail to render obvious Claims 7 and 9 under Section 103. Claims 7 and 9 are patentable over the cited prior art.

V. Prior art Not Cited Against Claims 14 and 38

It should be noted that the office action did not cite any prior art references against Claims 14 and 38. The only rejection against these claims is under Section 112.

Claim 14 relates to the straight line inward taper of the bend portion of the pre-form continuous wire strand. The cited prior art is completely devoid of such a teaching. The limitations of Claim 14 have been incorporated into independent Claim 1. As a result, Claim 1 is now submitted as being allowable.

Claim 38 relates specifically to a pre-form continuous wire strand that is asymmetrical along the longitudinal centerline of the wire pre-form. This is the wire pre-form that is provided in Fig. 5 in accordance with the present invention. Such an asymmetrical wire cannot be formed with wire knitting or slotted metal and is only

possible with a pre-form that is formed from a continuous wire strand as in the present invention.

Claims 14 and 38 are now definite in view of the amendments to make Claim 1 definite under Section 112. Since there are now no pending rejections against Claims 14 and 38, they are in condition for allowance.

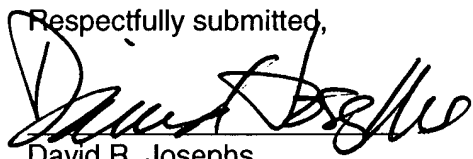
#### **VI. Conclusion**

Applicant submits that Claims 1-13, 15-18 and 33-38 are allowable over the cited prior art. In view of the above, Applicants submit that pending Claims 1-13, 15-18 and 33-38 are now in condition for allowance. Reconsideration of the Rejections and Objections are requested. Allowance of Claims 1-13, 15-18 and 33-38 at an early date is solicited.

If a further extension of time is required for timely submission of this response, Applicant hereby petitions for an appropriate extension of time and the Office is authorized to charge Deposit Account 02-0900 for the appropriate additional fees in connection with the filing of this response.

The Examiner is invited to telephone the undersigned should any questions arise.

Dated: 11/4/2003

Respectfully submitted,  
  
David R. Josephs  
Registration No. 34,632  
BARLOW, JOSEPHS & HOLMES, LTD.  
101 Dyer Street, 5<sup>th</sup> Floor  
Providence, RI 02903  
Tel: 401-273-4446  
Fax: 401-273-4447